

Amendments to Claims:

This listing of claims will replace all prior versions and listings of the claims in the application:

Listing of Claims:

1-30. (canceled).

31. (currently amended) A mechanical dilatation and medicament delivery device comprising:
a catheter having a distal end, a proximal end, and an iontophoretic transport means, said catheter having one or more lumens;

a cylindrically shaped expansion member positioned on said distal end of said catheter adapted to dilate an obstruction in a vessel, said cylindrically shaped expansion member having a first contracted diameter and a second expanded diameter, said second expanded diameter being larger than said first contracted diameter; and

an inner flow passage positioned between said catheter and cylindrically shaped expansion member; and

said mechanical dilatation and medicament delivery device being adapted to dilate said obstruction and expose said obstruction to a medicament using said iontophoretic transport means while said inner flow passage ~~allowing~~ allows blood or bodily fluids to flow through said cylindrically shaped expansion member.

32. (currently amended) A method for dilating and delivering a medicament to an obstruction in a body passageway which comprises the steps of:

advancing a mechanical dilation catheter to a predetermined ~~side~~ site within a body passageway, said catheter having a substantially cylindrical expansion member coated with a medicament and an iontophoretic transport means, said cylindrically shaped expansion member being moveable between a first contracted configuration wherein said expansion member is defined by a first dimension extending in a radial direction, and a second expanded configuration wherein said expansion member is defined by a second dimension extending in said radial direction;

applying a force on said cylindrically shaped expansion member in an axial direction to move said cylindrically shaped expansion member between said first contracted configuration to said second expanded configuration wherein said cylindrically shaped expansion member dilates said obstruction or body passageway and delivers the medicament to ~~an~~ said obstruction or body passageway using said iontophoretic transport means while an inner flow passage allows blood or bodily fluids to flow through said cylindrically shaped expansion member.

33-34. (canceled).

35. (currently amended) A method for dilating and delivering a medicament to an obstruction in a body passageway which comprises the steps of ;

advancing a mechanical dilatation catheter to a predetermined site within a body passageway, said catheter having a cylindrically shaped expansion member having at least portions of a proximal end, a middle portion, and a distal end coated with a medicament and an iontophoretic transport means, said cylindrically shaped expansion member being moveable between a first contracted configuration wherein said member is defined by a first dimension extending in a radial direction, and a second expanded configuration wherein said expansion member is defined by a second dimension extending in said radial direction;

applying a force on said cylindrically shaped expansion member in an axial direction to move said expansion member between said first contracted configuration to said second expanded configuration wherein said obstruction is dilated; and

operating said iontophoretic means to deliver said medicament into said obstruction or body passageway.

36. (original) A method as recited in claim 35 which further comprises the step of positioning a guidewire in the body passageway, and wherein said advancing step is accomplished by threading said catheter over said guidewire.

37. (original) A method as recited in claim 35 which further comprises the step of allowing said expansion member to be in said second expanded configuration for a predetermined period of time after the dilatation step to further expose said obstruction to the medicament.

38. (original) A method as recited in claim 35 which further comprises the step of varying the electric current with time to provide a waveform that controls the rate of iontophoretic transport of said medicament.

39. (previously presented) A method for dilating and delivering a medicament to an obstruction in a body passageway which comprises the steps of:

advancing a mechanical dilatation catheter to a predetermined site within a body passageway, said catheter having a cylindrically shaped expansion member coated with a medicament and an iontophoretic transport means, said cylindrically shaped expansion member being moveable between a first contracted configuration wherein said member is defined by a first dimension extending in a radial direction, and a second expanded configuration wherein said expansion member is defined by a second dimension extending in said radial direction;

applying a force on said cylindrically shaped expansion member in an axial direction to move said expansion member between said first contracted configuration to said second expanded configuration wherein said obstruction is dilated;

operating said iontophoretic means to deliver said medicament into said obstruction or body passageway;

further comprising, prior to advancing the catheter, the step of applying electrical energy to said expansion member to cause said medicament or therapeutic agent to electrically bond to said expansion member.

40-44. (canceled).

45. (previously presented) An apparatus as recited in claim 31 wherein said expansion member comprises a first plurality of flexible elongate elements helically wound in a first direction of rotation and a second plurality of flexible elongate elements helically wound in a second direction of rotation to form a braid.

46. (currently amended) An apparatus as recited in claim 31 wherein said ~~expansion member~~ inner flow passage is adapted to allow blood perfusion while said expansion member in either in said first diameter or in said second diameter.

47. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a combination of one or more medicaments and one or more polymers used to band said medicaments to said expansion member.

48. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament comprising an anticoagulant.

49. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament selected from the group consisting of D-Phe-Pro-Arg chloromethyl ketone, an RGD peptide-containing compound, heparin, an antithrombin compound, a platelet receptor antagonist, an anti-thrombin antibody, an anti-platelet receptor antibody, hirudin, hirulog, phe-pro-arg-chloromethyketone (Ppack), Factor VIIa, Factor Xa, aspirin, clopidogrel, ticlopidine, a prostaglandin inhibitor, a platelet inhibitor a and a tick anti-platelet peptide, and combinations thereof.

50. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament comprising a promoter of vascular cell growth.

51. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament selected from the group consisting of a growth factor stimulator, a growth factor receptor agonist, a transcriptional activator, and a translational promoter, and combinations thereof.
52. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament comprising an inhibitor of vascular cell growth.
53. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament selected from the group consisting of a growth factor inhibitor, a growth factor receptor antagonist, a transcriptional repressor, a translational repressor, an antisense DNA, an antisense RNA, a replication inhibitor, an inhibitory antibody, an antibody directed against growth factors, a bifunctional molecule consisting of a growth factor and a cytotoxin, and a bifunctional molecule consisting of an antibody and a cytotoxin, double stranded DNA, single stranded DNA, single stranded RNA and a double stranded RNA and combination thereof.
54. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament comprising a cholesterol-lowering agent.
55. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament comprising a vasodilating agent.
56. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament comprising an agent that interferes with endogenous vasoactive mechanisms.
57. (currently amended) The apparatus of claim 31, wherein the expansion member is coated with a medicament selected from the group consisting of estrogen, testosterone, steroid hormones, cortisol, dexamethasone, corticosteroids, thyroid hormones, thyroid hormones analogs, ~~thyroid~~ thyroid hormones antagonist, adrenocorticotrophic hormone, thyroid stimulating hormone, thyroid

releasing factor, thyroid releasing factor analogs, thyroid releasing factor antagonists and combinations thereof.

58. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament comprising a smooth muscle inhibitor.

59. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament comprising an agent that modulates intracellular calcium binding proteins.

60. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament comprising a receptor blocker for contractile agonists.

61. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament selected from the group consisting of an inhibitor of the sodium/hydrogen antiporter, a protease inhibitor, a nitrovasodilator, phosphodiesterase inhibitor, a phenothiazine, a growth factor receptor agonist, an anti-mitotic agent, an immunosuppressive agent, and a protein kinase inhibitor, and combinations thereof.

62. (previously presented) The apparatus of claim of 31, wherein the expansion member is coated with a medicament comprises a compound that inhibits cellular proliferation.

63. (previously presented) The apparatus of claim 31, wherein the expansion member is coated with a medicament selected from the group consisting of Paclitaxel, Rapamycin, Sirolimus, Actinomycin D, Methotrexate, Doxorubicin, cyclophosphamide, and 5-fluorouracil, and combinations thereof.

64. (previously presented) A method as recited in claim 35 which further comprises the step of allowing said expansion member to be in said second expanded configuration for an indeterminate time period as necessary to delivery the medicament to the passageway.

65. (previously presented) A method as recited in claim 35 which further comprises the step of varying the electric current with time to provide a square waveform that controls the rate of iontophoretic of said medicament.

66. (previously presented) The method of claim 35 wherein the passageway is a blood vessel.

67. (previously presented) The method of claim 35 further comprising the step operating the expandable member to dilate the passageway.

68. (previously presented) The method of claim 35, wherein the expansion member is coated with a combination of one or more medicaments and one or more polymers used to bond said medicaments to said expansion member.

69-84. (canceled).

85. (previously presented) The method of claim 35 further comprising the step of providing the cylindrically shaped expansion member in the form of an expandable mesh.

86. (currently amended) The method of claim 35 further comprising the step of providing the cylindrically shaped expansion member having a ~~perfusion passageway~~ an inner flow passage permitting fluid flow through the expansion member.

87. (previously presented) The method of claim 35 further comprising operating said iontophoretic means to supply a flow of electrical current to the cylindrically shaped expansion member.

88. (currently amended) An apparatus for dilating and delivering a medicament to a passageway in the body, said apparatus comprising:

a catheter, said catheter characterized by a distal end adapted for insertion into the passageway for dilating a stenosis and delivering a medicament to said stenosis;

a cylindrically shaped expansion member forming a continuous circumferential contact surface and disposed on the distal end of the catheter, said expansion member being movable between a first contracted configuration wherein said expansion member is defined by a first dimension extending in a radial direction, and a second expanded configuration wherein said expansion member is defined by a second dimension extending in said radial direction;

said cylindrically shaped expansion member coated with a medicament subject to iontophoretic delivery; and

an iontophoretic transport means operably connected to the cylindrically shaped expansion member.